

REMARKS

This Amendment, filed in reply to the Office Action dated March 28, 2005, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

As a preliminary matter, the Examiner has objected to Fig. 8. Applicant herewith submits corrected Figure 8 to obviate the objection.

Claims 1-13 remain pending in the application. Claims 4-5 have been deemed to describe allowable subject matter but are objected to for depending on rejected base claims. Claims 8-13 have been rejected under 35 U.S.C. § 103 as being unpatentable over Nagabusa (U.S.P. 5,036,397) in view of well known prior art. Claims 1-3 and 6-7 have been rejected under 35 U.S.C. § 103 as being unpatentable over Tone (U.S.P. 5,640,251) in view of well known prior art. Applicant submits the following course for responding to the prior art rejections.

To expedite prosecution of the case, Applicant hereinabove amends independent claims 8 and 11 with the features of allowable claim 4. Claims 9 and 12 are rewritten to include features of claim 5.

With regard to the rejection of claims 1-7, Applicant respectfully submits the following comments in traversal of the prior art rejection.

Applicant's invention relates to a high speed image reading method and apparatus. In an exemplary embodiment illustrated by Fig. 2, photodiode array 22 includes plural photoconverters arranged in a main scan direction and divided into sections 22-1 to 22-8. Intermediate sections include j photodiodes and end sections include k photodiodes, where k is larger than j. The sections are provided with corresponding amplifiers to read out pixels in parallel from the

photoconverter array. The use of different numbers of photodiodes in each section permit flexibility in the read out of an image, especially in the case where an image is not formed using all of the pixels.

Turning to the cited art, Tone relates to an image reading device that permits reading of different size images at different speeds. In the “large width” mode, a photoconverter array is divided into three sections, including pixels numbered 1-13440, with each section having 4480 pixel elements. In the high speed mode, the pixels are also divided into three sections, each having 1120 pixel elements in a section.

The Examiner contends that Tone in combination with known art teaches or suggests each feature of independent claim 1. However, claim 1 describes arrays of photodiodes where the arrays are divided into plural sections different in a number of pixels, and the respective pixels sections connected to corresponding transfer paths and output terminals. The Examiner cites col. 7, lines 49-61 and col. 5, lines 16-44 as teaching this feature.

The discussion at col. 7 describes two modes of operation. In the large width mode, three sections each having 4480 photodiodes are used to output an image corresponding to a large imaging area. Col. 7 further describes a high speed mode, which is operational when it is determined that an input image does not cover a large area. Col. 5 describes a similar high speed mode read out. In this high speed mode, only photodiodes 5041-8400 are used and read out. Col. 6, lines 47-54. In this mode, the photodiode sections remain equally divided into three section, each having 1120 elements. Contrary to the Examiner’s contention, there is no mode where there are first-fifth sections of photoconversion or pixel elements. In each case which allows for

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parallel read out of pixel rows in respective sections, the sections have the same number of pixels and not a differing number as claimed.


Applicant further submits that the dual mode of Tone cannot teach the sections having a different number of elements since the modes are of alternative operation, and thus sequential modes of operation would not include the parallel read out requirements of claim 1. Therefore, claim 1 is patentable for at least these reasons.

Because independent claims 6-7 each include features similar to that described above for claim 1, claims 6-7 are also patentable for the reasons set forth above. Claims 2-3 are patentable based on their dependency.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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AMENDMENTS TO THE DRAWINGS

Fig. 8 is amended to include the legend "Prior Art" to obviate the objection set forth by the Examiner.

Attachment: Replacement Sheet